CLAIMS

What is claimed is:

1. A composition, comprising one or more polysaccharides and one or more therapeutic agents, wherein said composition enhances therapeutic efficacy and reduces toxicity associated with said therapeutics.

2. The composition of claim 1, wherein said polysaccharide is branched or unbranched.

3. The composition of claim 1, wherein said polysaccharide is selected from the group consisting of galactomannan, arabinogalactan, rhamnogalacturonan and a combination thereof.

4. The composition of claim 3, wherein said galactomannan is a β-1,4-D-galactomannan.

5. The composition of claim 3, wherein said galactomannan is (((1, 4)- linked β-D-mannopyranose $)_{17}$ - ((1, 6)-linked-β-D- galactopyranose$)_{10}$ $)_{12}$).

6. The composition of claim 5, wherein said (((1, 4)- linked β-D-mannopyranose $)_{17}$ - ((1, 6)-linked-β-D- galactopyranose$)_{10}$ $)_{12}$) has a molecular weight ranging from about 2,000 Da to 600,000 Da.

7. The composition of claim 5, wherein said (((1, 4)- linked β-D-mannopyranose $)_{17}$ - ((1, 6)-linked-β-D- galactopyranose$)_{10}$ $)_{12}$) has a molecular weight ranging from about 50,000 Da to 415,000 Da.

8. The composition of claim 5, wherein said (((1, 4)- linked β-D-mannopyranose $)_{17}$ - ((1, 6)-linked-β-D- galactopyranose$)_{10}$ $)_{12}$) has a molecular weight ranging from about 4000 Da to 60,000 Da.

9. The composition of claim 1, wherein said therapeutic agent is selected from the group consisting of 5-FU, 5-FUdR, methotrexate, ara-C, 6-mercaptopurine, 6-thioguanine, hydroxyurea, vinblastine, vincristine, vindesine, mechlorethamine, phenylalanine mustard, chlorambucil, ethylenimines, methyl melamines, alkylsulfonates, carmustine, lomustine, streptozocin, cisplatin, dacarbazine, procarbazine, doxorubicin,

dactinomycin, mitomycin C, plycamycin, cyclophosphamide, melphalan, thiotepa, busulfan, prednisone, prednisolone, triamcinolone, paclitaxel, and combinations thereof.

10. The composition of claim 9, wherein said therapeutic agent is selected from the group consisting of 5-FU, 5-FUdR, cisplatin, and combinations thereof.

11. The composition of claim 10, wherein said therapeutic agent is 5-FU.

12. The composition of claim 1 further comprising leucovorin.

13. A method for treating of treating cancer, comprising administering to a subject in need thereof an effective amount of an admixture having (((1, 4)- linked β-D-mannopyranose $)_{17}$ - ((1, 6)-linked-β-D- galactopyranose$)_{10}$ $)_{12}$) and a chemotherapeutic agent in a pharmaceutically acceptable carrier.

14. The method of claim 13, wherein said chemotherapeutic agent is selected from the group consisting of 5-FU, 5-FUdR, methotrexate, ara-C, 6-mercaptopurine, 6-thioguanine, hydroxyurea, vinblastine, vincristine, vindesine, mechlorethamine, phenylalanine mustard, chlorambucil, ethylenimines, methyl melamines, alkylsulfonates, carmustine, lomustine, streptozocin, cisplatin, dacarbazine, procarbazine, doxorubicin, dactinomycin, mitomycin C, plycamycin, cyclophosphamide, melphalan, thiotepa, busulfan, prednisone, prednisolone, triamcinolone, paclitaxel, and combinations thereof.

15. The method of claim 13, wherein said chemotherapeutic agent is selected from the group consisting of 5-FU, 5-FUdR, cisplatin, and combinations thereof.

16. The method of claim 13, wherein said chemotherapeutic agent is 5-FU.

17. The method of claim 13 further comprising leucovorin.

18. The method of claim 13, wherein said cancer is selected from the group consisting of chronic leukemia, breast cancer, sarcoma, ovarian carcinoma, rectal cancer, throat cancer, melanoma, colon cancer, bladder cancer, lung cancer, mammary adenocarcinoma, gastrointestinal cancer, stomach cancer, prostate cancer, pancreatic cancer, and Kaposi's sarcoma.

19. The method of claim 13, wherein said admixture has an amount of said (((1, 4)- linked β-D-mannopyranose $)_{17}$ - ((1, 6)-linked-β-D- galactopyranose$)_{10}$ $)_{12}$) and an amount of said chemotherapeutic agent in a ratio suitable for reducing toxicity experienced by said subject.

20. The method of claim 13, wherein said admixture has an amount of said (((1, 4)- linked β-D-mannopyranose)$_{17}$ - ((1, 6)-linked-β-D- galactopyranose)$_{10}$)$_{12}$) and an amount of said chemotherapeutic agent in a ratio suitable for enhancing the therapeutic efficacy of said chemotherapeutic agent.

21. The method of claim 13, wherein said admixture has an amount of said (((1, 4)- linked β-D-mannopyranose)$_{17}$ - ((1, 6)-linked-β-D- galactopyranose)$_{10}$)$_{12}$) and an amount of said chemotherapeutic agent in a ratio suitable for reducing toxicity experienced by said subject and enhancing the efficacy of said chemotherapeutic agent.

22. The method of claim 13, wherein said admixture has an amount of said (((1, 4)- linked β-D-mannopyranose)$_{17}$ - ((1, 6)-linked-β-D- galactopyranose)$_{10}$)$_{12}$) and an amount of cytokine and chemotherapeutic agent in a ratio suitable for reducing toxicity in said subject.

23. The method of claim 13, wherein said admixture has an amount of said (((1, 4)- linked β-D-mannopyranose)$_{17}$ - ((1, 6)-linked-β-D- galactopyranose)$_{10}$)$_{12}$) and an amount of IL-2, IL-12, or α-interferon or both and said chemotherapeutic agent in a ratio suitable for reducing toxicity experienced by said subject.

24. The method of claim 13, wherein said admixture has an amount of said (((1, 4)- linked β-D-mannopyranose)$_{17}$ - ((1, 6)-linked-β-D- galactopyranose)$_{10}$)$_{12}$) and an amount of cytokine and said chemotherapeutic agent in a ratio suitable for enhancing the efficacy of said chemotherapeutic agent.

25. The method of claim 13, wherein said admixture has an amount of said (((1, 4)- linked β-D-mannopyranose)$_{17}$ - ((1, 6)-linked-β-D- galactopyranose)$_{10}$)$_{12}$) and amount of IL-2, IL-12, α-interferon or both and said chemotherapeutic agent in a ratio suitable for enhancing the efficacy of said chemotherapeutic agent.